

**CITY OF FAIRFIELD**

**RESOLUTION NO. 2017 - 18**

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FAIRFIELD AUTHORIZING  
THE CITY MANAGER TO EXECUTE A DESIGN SERVICES AGREEMENT  
BETWEEN THE CITY OF FAIRFIELD AND CREEGAN + D'ANGELO  
INFRASTRUCTURE ENGINEERS FOR ENGINEERING AND DESIGN SERVICES  
FOR THE CANON STATION PUMP STATION**

**WHEREAS**, the Canon Station Development requires new infrastructure to provide water service to the development area; and

**WHEREAS**, the Amended and Restated Development Agreement executed May 8, 2015 between the City and Canon Station states that the City will be responsible for the design of the pump station, storage reservoir and appurtenant facilities; and

**WHEREAS**, the Amended and Restated Development Agreement between the City and Canon Station requires that the Developer reimburse the City for the costs of the design; and

**WHEREAS**, Creegan + D'Angelo Infrastructure Engineers is qualified to perform the engineering and design work; and

**WHEREAS**, the City and Canon Station jointly selected Creegan + D'Angelo Infrastructure Engineers to perform the design services for a not to exceed fee of \$359,129.

**NOW, THEREFORE, THE COUNCIL OF THE CITY OF FAIRFIELD HEREBY RESOLVES:**

Section 1. The City Manager is hereby authorized and directed to execute on behalf of the City of Fairfield that certain agreement for design services with Creegan + D'Angelo Infrastructure Engineers for Canon Station Pump Station Project for an amount not to exceed three hundred fifty-nine thousand, one hundred twenty-nine dollars and zero cents (\$359,129).

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**PASSED AND ADOPTED** this 17<sup>th</sup> day of January, 2017, by the following vote:

AYES: COUNCILMEMBERS: PRICE/TIMM/BERTANI/MOY/VACCARO  
NOES: COUNCILMEMBERS: NONE  
ABSENT: COUNCILMEMBERS: NONE  
ABSTAIN: COUNCILMEMBERS: NONE

Nancy T. Price  
MAYOR

**ATTEST:**

John H. Stapp, Deputy  
CITY CLERK  
pw

## DESIGN SERVICES AGREEMENT

### CANON STATION PUMP STATION PROJECT

THIS AGREEMENT, made and entered into as of February 2, 2017, by and between the CITY OF FAIRFIELD, a municipal corporation, hereinafter referred to as "CITY" and CREEGAN + D'ANGELO, hereinafter referred to as "CONSULTANT."

#### RECITALS

A. CITY desires to contract for certain consulting work necessary for the construction of Canon Station Pump Station, and for the purposes of this Agreement shall be called "PROJECT," and,

B. CONSULTANT is willing and qualified to undertake said consulting work;

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements herein set forth, the parties do hereby agree as follows:

#### AGREEMENT

##### I. DUTIES OF CONSULTANT

The CONSULTANT shall provide professional consulting services required for design and construction of the PROJECT as follows (collectively, "Consultant's Services"):

- A. Project Coordination. The CONSULTANT's primary contact with the CITY shall be the CITY's Project Manager (Julie B. Lucido) or any other as designated by the City Engineer.
- B. Project Scope. The CONSULTANT shall provide the engineering design services in accordance with the Scope of Work attached hereto as Exhibit "A."
- C. CONSULTANT shall, at its sole cost and expense, furnish all facilities and equipment which may be required for furnishing services pursuant to this Agreement.

## **II. DUTIES OF CITY**

The CITY shall:

- A. Make available previous plans, reports, and all other data relative to the design of the PROJECT and full information as to the CITY's requirements, including title reports and condemnation guarantees as required.
- B. Review preliminary and final plans, specifications, estimates, and other documents presented by CONSULTANT and render decisions within a reasonable time, and give prompt notice to CONSULTANT at any time CITY observes or otherwise becomes aware of any error, omission, or defect in the PROJECT.
- C. Provide for all necessary environmental clearances.
- E. Reproduce and distribute bid documents, advertise the project for bidding purposes, maintain a plan holders list, and distribute addenda.
- F. Provide construction management services as required.
- G. Provide construction inspection and red-lined drawings from which CONSULTANT shall prepare "Record Drawings".
- H. Make all necessary provisions for CONSULTANT to enter upon public and private property as required in the performance of Consultant's Services under this Agreement.

## **III. MISCELLANEOUS PROVISIONS**

- A. CONSULTANT shall not assign any rights or duties under this Agreement to a third party without the prior written consent of CITY.
- B. It is understood by and between the parties hereto that CONSULTANT, in the performance of this Agreement, shall act as, and be, an independent contractor and not an agent or employee of CITY. CITY shall have the right to control CONSULTANT only insofar as the results of CONSULTANT's Services rendered pursuant to this Agreement; however, CITY shall not have the right to control the means by which CONSULTANT accomplishes the Consultant's Services rendered pursuant to this Agreement.

- C. CONSULTANT represents and warrants to CITY that CONSULTANT has all licenses, permits, qualifications and approvals of whatsoever nature which are legally required for CONSULTANT to practice CONSULTANT'S profession. CONSULTANT represents and warrants to CITY that CONSULTANT shall, at its sole cost and expense, keep in effect at all times during the term of this Agreement, any licenses, permits, and approvals which are legally required for CONSULTANT to practice his or her profession.
- D. Except as CITY may specify in writing, CONSULTANT shall have no authority, express or implied, to act on behalf of CITY in any capacity whatsoever as an agent. CONSULTANT shall have no authority, express or implied, pursuant to this Agreement, to bind CITY to any obligation whatsoever.
- E. CONSULTANT shall assign only competent personnel to perform Consultant's Services. In the event that CITY, in its sole discretion, at any time during the term of this Agreement, desires the removal of any person or persons assigned by CONSULTANT to perform Consultant's Services, CONSULTANT shall remove any such person immediately upon receiving notice from CITY of the desire of CITY for the removal of such person or persons.
- F. CONSULTANT shall perform Consultant's Services in the manner and according to the standards observed by a competent practitioner of the profession in which CONSULTANT is engaged in the geographical area in which CONSULTANT practices his or her profession. All products of whatsoever nature which CONSULTANT delivers to CITY pursuant to this Agreement shall be prepared in a substantial, first-class, and workmanlike manner, and conform to the standards of quality normally observed by a person practicing in CONSULTANT's profession. CITY shall be the sole judge as to whether the product of the CONSULTANT is satisfactory.
- G. CONSULTANT is not a "public official" for purposes of Government Code §§ 87200 et seq. CONSULTANT conducts research and arrives at conclusions with respect to his or her rendition of information, advice, recommendation or counsel independent of the control and direction of the CITY or any CITY official, other than normal contract monitoring. In addition, CONSULTANT

possesses no authority with respect to any CITY decision beyond the rendition of information, advice, recommendation or counsel.

- H. The parties hereto agree to immediately and diligently proceed with their respective duties as set forth herein to the end that the PROJECT will be completed satisfactorily within the shortest reasonable time.
- I. The CONSULTANT is not responsible for delay, nor shall CONSULTANT be responsible for damages or be in default or deemed to be in default by reason of strikes, lockouts, accidents, or acts of God; or the failure of CITY to furnish timely information or to approve or disapprove CONSULTANT's Services promptly; or delay or faulty performance by CITY, other contractors, or governmental agencies; or any other delays beyond CONSULTANT's reasonable control.

IV. COMPENSATION OF CONSULTANT

- A. Basis of Compensation. For and in consideration of Consultant's Services, CITY agrees to pay CONSULTANT, and CONSULTANT agrees to accept from CITY as full compensation for said services the following maximum, not to exceed, amount(s):
  1. For those services described in Section I. compensation shall be on a time and material basis with a maximum fee not to exceed THREE-HUNDRED FIFTY-NINE THOUSAND, ONE-HUNDRED TWENTY-NINE DOLLARS (\$359,129.00).
- B. Extra Work and Change Order Fee. Extra Work performed by the CONSULTANT for any work required by the CITY which is not specified as part of Consultant's Services in Section I, including but not limited to, any changes to CONSULTANT's Services including but not limited to contract change orders after the award of the construction contract by the City Council, or testimony in Court, shall be compensated by the use of the time and material fee rates of the attached Exhibit "B." No extra work will be compensated for unless required by CITY in writing.

C. Schedule of Payments.

1. CONSULTANT shall submit, and CITY shall pay, monthly invoices for work performed during the previous month. For the time and material services billing shall be based on the hourly and fee rate charges set forth in Exhibit "B" attached hereto, and on the number of hours expended on the PROJECT by each classification of employee.
2. In the event PROJECT is terminated, CITY shall pay to CONSULTANT full compensation for work performed up until the date of CONSULTANT's receipt of written notification to cease work on the PROJECT.
3. CONSULTANT shall notify the CITY in writing when the CONSULTANT's invoices total billing is within 25% of the contract compensation as indicated in Section IV. A.

V. TIME OF COMPLETION

Consultant's Services shall be complete by June 30, 2018.

VI. PROJECT MANAGER

CONSULTANT designates Kenneth R. Swenson as Project Manager, to remain such unless or until CONSULTANT requests to change said designation and said request is approved by CITY. Major duties shall include:

- A. Personally direct all work essential to the PROJECT.
- B. Sign all letters and instruments as requested by, and on behalf of, CITY.
- C. Attend public meetings related to the PROJECT.

VII. CANCELLATION OF AGREEMENT

This Agreement may be canceled at any time by CITY for its convenience upon written notification to CONSULTANT. CONSULTANT shall be entitled to receive full compensation payment for all services performed and all costs incurred to the date of receipt of written notice to cease work on the PROJECT. Said compensation will be determined in accordance with Section IV. CONSULTANT

shall be entitled to no further compensation for work performed after the date of receipt of written notice to cease work on the PROJECT.

VIII. INDEMNIFY AND HOLD HARMLESS

- A. Indemnity for Design Professional Services. In connection with its design professional services hereunder, Consultant shall hold harmless and indemnify City, and its elected officials, officers, employees, servants, designated volunteers, and those City agents serving as independent contractors in the role of City officials (collectively, "Indemnitees"), with respect to any and all claims, demands, damages, liabilities, losses, costs or expenses, including reimbursement of attorneys' fees and costs of defense (collectively, "Claims" hereinafter), including but not limited to Claims relating to death or injury to any person and injury to any property, which arise out of, pertain to, or relate to in whole or in part to the negligence, recklessness, or willful misconduct of Consultant or any of its officers, employees, subcontractors, or agents in the performance of its design professional services under this Agreement.
- B. Other Indemnities. In connection with any and all claims, demands, damages, liabilities, losses, costs or expenses, including attorneys' fees and costs of defense (collectively, "Damages" hereinafter) not covered by Section VIII. A, Consultant shall defend, hold harmless and indemnify the Indemnitees with respect to any and all Damages, including but not limited to, Damages relating to death or injury to any person and injury to any property, which arise out of, pertain to, or relate to the acts or omissions of Consultant or any of its officers, employees, subcontractors, or agents in the performance of this Agreement, except for such loss or damage arising from the sole negligence or willful misconduct of the City, as determined by final arbitration or court decision or by the agreement of the parties. Consultant shall defend Indemnitees in any action or actions filed in connection with any such Damages with counsel of City's choice, and shall pay all costs and expenses, including all attorneys' fees and experts' costs actually incurred in connection with such defense.

Consultant's duty to defend pursuant to this Section VIII. B shall apply independent of any prior, concurrent or subsequent misconduct, negligent acts, errors or omissions of Indemnitees.

- C. Survival of Indemnification Obligations. Acceptance of insurance certificates and endorsements required under this Agreement does not relieve CONSULTANT from liability under this indemnification and hold harmless clause. The Indemnities in this Section VIII shall apply whether or not such insurance policies shall have been determined to be applicable to any of such damages or claims for damages.

IX. INSURANCE

During the term of this Agreement CONSULTANT shall obtain and maintain in full force and effect at his/her own cost and expense the following insurance coverage:

- A. Worker's Compensation Insurance. Worker's Compensation Insurance, as required by the State of California, shall be provided that is necessary in connection with the performance of this Agreement. Such insurance shall relieve CITY from all responsibility for such benefits. Said policy shall also include employer's liability coverage no less than one million dollars (\$1,000,000.00) per accident for bodily injury and disease.
- B. General Liability Insurance. CONSULTANT shall obtain at its sole cost and keep in full force and effect during the term of this agreement commercial general liability insurance in the amount of one million dollars (\$1,000,000.00) per occurrence for bodily injury, personal injury, and property damage. Said insurance shall provide (1) that the CITY, its officers, agents, employees, and volunteers shall be named as additional insureds under the policy, and (2) that the policy shall operate as primary insurance, and that (3) no other insurance effected by the CITY or other named insureds will be called upon to cover a loss covered thereunder.

C. Automobile Liability Insurance.

CONSULTANT shall obtain at its sole cost and keep in full force and effect during the term of this agreement automobile liability insurance in the amount of one million dollars (\$1,000,000.00) per occurrence for bodily injury and property damage. Said insurance shall provide (1) that the CITY, its officers, agents, employees, and volunteers shall be named as additional insureds under the policy, and (2) that the policy shall operate as primary insurance, and that (3) no other insurance effected by the CITY or other named insureds will be called upon to cover a loss covered thereunder.

D. Certificates of Insurance.

CONSULTANT shall file with the CITY's Director of Public Works upon the execution of this agreement, certificates of insurance which shall provide that no cancellation, major change in coverage, expiration, or renewal will be made during the term of this Agreement, without thirty (30) days written notice to the Director of Public Works prior to the effective date of such cancellation, or change in coverage.

E. Professional Liability Insurance. During the term of this Agreement, CONSULTANT shall maintain a professional liability insurance policy covering any loss arising out of errors, omissions, or negligent actions of CONSULTANT in the amount of not less than one million dollars (\$1,000,000.00).

X. OWNERSHIP OF DOCUMENTS

All documents prepared by CONSULTANT in the performance of his or her duties under this Agreement, including but not limited to, the plans, reproducible mylar plans, specifications, studies, reports, and contract documents shall be the property of the City of Fairfield. If this Agreement is canceled in accordance with Section VII above, all completed and partially completed documents prepared by CONSULTANT shall be delivered to the CITY in both printed and electronic format within two weeks of notice of cancellation. CONSULTANT shall not obtain or attempt to obtain copyright protection as to any documents prepared hereunder.

XI. SCOPE OF AGREEMENT

This writing constitutes the entire agreement between the parties relative to CONSULTING services on the PROJECT and no modification hereof shall be effective unless or until such modification is evidenced by a writing signed by both parties to this Agreement.

XII. PROHIBITED INTERESTS

No employee of the City of Fairfield shall have any direct financial interest in this Agreement. This Agreement shall be voidable at the option of the CITY if this provision is violated.

XIII. LOCAL EMPLOYMENT POLICY

- A. The City of Fairfield desires wherever possible to hire qualified local residents to work on City projects. Local resident is defined as a person who resides in Solano County.
- B. The City encourages an active affirmative action program on the part of its contractors, consultants, and developers.
- C. When local projects require, subcontractors, contractors, consultants, and developers will solicit proposals from qualified local firms where possible.
- D. As a way of responding to the provisions of the Davis-Bacon Act and this program, contractors, consultants, and developers will be asked to provide no more frequently than monthly, a report which lists the employee's name, job class, hours worked, salary paid, City of residence, and ethnic origin.

XIV. EMPLOYMENT DEVELOPMENT DEPT. REPORTING REQUIREMENTS.

When CITY executes an agreement for or makes payment to CONSULTANT in the amount of \$600 (six hundred dollars) or more in any one calendar year, CONSULTANT shall provide the following information to CITY to comply with Employment Development Department (EDD) reporting requirements:

- A. Whether CONSULTANT is doing business as a sole proprietorship, partnership, limited liability partnership, corporation, limited liability corporation, non-profit corporation or other form of organization.
- B. If CONSULTANT is doing business as a sole proprietorship, CONSULTANT shall provide the full name, address and social security number or federal tax identification number of the sole proprietor.
- C. If CONSULTANT is doing business as other than a sole proprietorship, CONSULTANT shall provide CONSULTANT's federal tax identification number.

## XV. MISCELLANEOUS PROVISIONS

- A. Legal Action.
  - 1. Should either party to this Agreement bring legal action against the other, the validity, interpretation, and performance of this Agreement shall be controlled by and construed under the laws of the State of California, excluding California's choice of law rules. Venue for any such action relating to this Agreement shall be in the Solano County Superior Court.
  - 2. If any legal action or other proceeding, including action for declaratory relief, is brought for the enforcement of this Agreement or because of an alleged dispute, breach, default or misrepresentation in connection with this Agreement, the prevailing party shall be entitled to recover reasonable attorneys' fees, experts' fees, and other costs, in addition to any other relief to which the party may be entitled.
  - 3. Should any legal action about a project between CITY and a party other than CONSULTANT require the testimony of CONSULTANT when there is no allegation that CONSULTANT was negligent, CITY shall compensate CONSULTANT for its testimony and preparation to testify at hourly rates that are agreed-upon in advance in writing by both parties.
- B. Entire Agreement; Modification. This Agreement, including any other documents incorporated herein by specific reference, represents the entire and integrated agreement between CITY and CONSULTANT and supersedes all prior negotiations, representations or agreements, either written or oral.

This Agreement may be modified or amended, or provisions or breach may be waived, only by subsequent written agreement signed by both parties.

- C. Non-Waiver of Terms, Rights and Remedies. Waiver by either party of any one or more of the conditions of performance under this Agreement shall not be a waiver of any other condition of performance under this Agreement. In no event shall the making by the CITY of any payment to CONSULTANT constitute or be construed as a waiver by the CITY of any breach of covenant, or any default which may then exist on the part of CONSULTANT, and the making of any such payment by the CITY shall in no way impair or prejudice any right or remedy available to the CITY with regard to such breach or default.
- D. Time. Time is of the essence in the performance of this Agreement.
- E. Severability. If any term or portion of this Agreement is held to be invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

- F. Notices  
Except as otherwise required by law, any notice, request, direction, demand, consent, waiver, approval or other communication required or permitted to be given hereunder shall not be effective unless it is given in writing and shall be delivered (a) in person or (b) by certified mail, postage prepaid, and addressed to the parties at the addresses stated below, or at such other address as either party may hereafter notify the other in writing as aforementioned:

To CITY: City of Fairfield  
Attention: Julie B. Lucido  
Public Works Department  
1000 Webster Street  
Fairfield, CA 94533

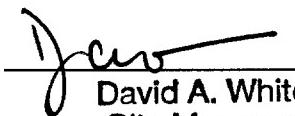
To CONSULTANT: Creegan + D'Angelo  
Attention: Kenneth R. Swenson  
2420 Martin Road, Suite 380  
Fairfield, CA 94534

A party may change its address by giving written notice to the other party. Thereafter, any notice or other communication shall be addressed and transmitted to the new address. If sent by mail, any notice, tender, demand, delivery or other communication shall be deemed effective three (3) business days after it has been deposited in the United States mail. For purposes of communicating these time frames, weekends and CITY holidays shall be excluded. No communication via facsimile or electronic mail shall be effective to give any such notice or other communication hereunder.

- G. Counterparts. This Agreement may be executed in counterparts, each of which shall be considered an original.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of  
February 2, 2017.

CITY OF FAIRFIELD  
a municipal corporation (CITY)

  
\_\_\_\_\_  
David A. White  
City Manager 

By   
Creegan + D'Angelo  
2420 Martin Road, Suite 380  
Fairfield, CA 94534

**EXHIBIT "A"**

**SCOPE OF SERVICE**

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**PROPOSAL****SCOPE OF WORK****I. PROJECT APPROACH****1. Statement of Approach**

Creegan + D'Angelo (C+D) will provide civil, structural, electrical and geotechnical engineering services to assist the City in the preparation of a Basis of Design Report (BDR) for the construction of a booster pump station; the sizing, site locations and phasing requirements for future reservoir(s); and plans specification and cost estimate for the construction of a booster pump station for Canon Station in Fairfield, California. Listed below are specific items of work anticipated to be required:

**2. Assumptions**

Our understanding, as a result of our meeting with the City of Fairfield, is that McKinley Partners will construct a new booster pump station and prepare plans showing the phasing and determine the sizing of future Canon Station Reservoirs. The booster pump station will be located on at the North Bay Regional Water Treatment Plant.

The proposed booster pump station will:

- Be sized to incorporate all the changes in the land use and residential unit count within the service area of the pump station.
- Be sized to incorporate maximum fire flow demands.
- Be redundant for domestic and fire flow pumps.
- Have VFD drives.
- Have flow through hydropneumatic tank.

**II. BASIC SERVICES**

The scope of the design work included in this proposal is broken into three phases. Phase I is the kickoff meeting and Basis of Design Report, Phase II is the construction documents for 75%, 95% and 100% submittals, and Phase III for construction administration assistance services. Construction staking services are not included within the scope of this proposal.

**1. Phase I: Kickoff Meeting and Basis of Design Report****1.1 Kickoff Meeting**

C+D's principal in charge and project manager, along with the lead design engineer from ATEEM Engineering, will meet with the City and McKinley Partners for a kickoff meeting at the City. At the Kickoff Meeting, the following items will be discussed:

- Points of contact for City, McKinley Partners and the design team will be confirmed.
- The project schedule will be reviewed, including critical dates where design information provided by McKinley must be provided to the design team in order to meet the proposed schedule.

## PROPOSAL

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### 1.2 Basis of Design Report

1.2.1 Basis of Design Report (BDR) will consist of revising the previous basis of design report prepared by Coleman Engineering. The previous report will be revised to evaluate the proposed booster pump station to size pumps that take into account:

- a. New landuse water demands and peaking factors.
- b. Determine the service area of the pump station.
- c. Phasing of the future construction of the Canon Station Reservoir.

We will utilize existing and supplemental topo from the Canon Station Developer to prepare a preliminary site layout plan using one-foot contour; one inch equal 20 scale design level topographic map that encompasses the proposed site. This will be done in CAD and will be used for the BDR and drawings in Phase II of the project.

### 1.2.2 Prepare Basis of Design Narrative.

The Narrative will include:

- Hydraulic design.
- Evaluating pumping requirements and sizing of pumps and possible pump configuration.
- Proposed concept pump site layout showing building, hydropneumatic tank, generator, driveway, fences and gates, points of connection to and from suction and discharge.
- Develop preliminary P&IDs for the pump station.
- Develop preliminary pump station one line diagram.
- Determine where the new power feed to the Pump Station will be fed from.
- Perform load calculations for the North Bay Regional WTP based on existing drawings to verify capacity of the utility and generator system.
- Proposed location and sizing of equipment.
- Prepare planning level cost estimate.
- Identify building type.

### Work Product

- Prepare preliminary schematic drawings on 24"x36" bond.
- Prepare narrative and preliminary cost estimate for proposed improvements.

## 2. Phase II: 75%, 95% and 100% Construction Documents

### 2.1 75% Construction Documents

Plans and outline technical specifications with cost estimate will be prepared for the pump station based on BDR. The construction drawings will generally include the following civil, structural, architectural and electrical/control plan views and details:

#### 2.1.1 Survey

We will coordinate with Developer's surveyor to obtain a needed supplemental topo of the selected areas of the site. This will be done in CAD and combined with the Developer furnished aerial topo the basis for design drawings in Phase II of the project. More specifically the scope of work will include:

## PROPOSAL

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- a. We will compile a half-foot contour; one inch equal 20 scale design level topographic map that encompasses the proposed site. The datum for the survey will be NAVD88, NAD83.
- b. We will coordinate with the Developer's Surveyor to locate any surface utility feature (manhole, catch basin grate and invert), walls, fences or buildings, located on North Bay Regional Water Treatment Plant site for conform pavement locations and electrical service point locations.

### 2.1.2 Geotechnical

We will utilize the services of Wallace Kuhl Associates (WKA) to perform detailed geotechnical studies of booster station site to determine the engineering parameters required for the seismic design of the building. Work will include:

- a. Drill and sample five borings across the site. The borings will be relatively uniformly spaced across the site. If specific location information is available prior to performing the field exploration, the borings will also be located within the proposed improvement footprints. The borings will extend about 25 feet below the existing ground surface, or practical auger refusal, whichever is shallower.
- b. Before performing the subsurface exploration, the proposed boring locations will be marked in white paint by a representative from our firm and the Underground Service Alert (USA) will be notified for utility clearance. We will take precautions not to disturb underground utilities that are clearly marked in the field or brought to our attention; however, we cannot be responsible for damage to unmarked underground utilities or those that are not known to us.
- c. Representative bulk samples of anticipated subgrade soils also will be collected for geotechnical analysis. Soil samples from the field exploration will be taken to our laboratory for additional classification and testing to determine the engineering properties of the on-site soils.
- d. The subsurface exploration will be performed under permit from the Solano County Environmental Health Division (County) and backfilled with cement grout following completion of the borings. Soils generated from the investigation will be disposed of on-site.
- e. The results of the field exploration and laboratory testing will be analyzed and a geotechnical engineering report prepared presenting:
  1. A Vicinity Map;
  2. Site Plan showing approximate boring locations;
  3. Logs of Soil Borings;
  4. Laboratory test results;
  5. Findings regarding site, soil and groundwater conditions;
  6. Conclusions regarding:
    - a. pump station and tank support
    - b. 2016 California Building Code seismic design parameters
    - c. Liquefaction potential
    - d. expansive soil conditions
    - e. excavation/trenching conditions
    - f. material suitability for use in fill construction
    - g. effect of groundwater on site development

## PROPOSAL

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- h. pavement subgrade quality
  - i. preliminary soil corrosion potential, and;
7. Recommendations regarding:
- a. site clearing and subgrade preparation
  - b. engineered fill placement
  - c. utility trench backfill and shoring
  - d. foundation design
  - e. asphalt concrete and concrete pavement design for varying traffic conditions
  - f. site drainage.

### 2.1.3 Electrical

We will work with our subconsultant, ATEEM, and PG&E, to develop and provide telemetry and power extension to serve the project for the booster station. ATEEM's work for the 75% will include:

- a. Load calculations
- b. Conduit & wire
- c. Device Index
- d. Panel board
- e. PLC I/O

### 2.1.4 Civil

75% Construction Documents, for civil, will be completed showing concept pump and the proposed improvements and submitted to the City and Developer for review and comment.

- a. The construction drawings will include:
  1. Base sheet with proposed concept pump site layout showing building, driveway, fences and gates, points of connection to and from suction and discharge main.
  2. Proposed location and sizing of equipment.
  3. Title Sheet with vicinity map, index, legend and miscellaneous notes.
  4. Site layout plan showing pump station layout.
  5. Enlarged piping and fitting plan with cross-section view.
  6. Miscellaneous site details.

### 2.1.5 Structural

- a. Structural drawing sheets with general notes, foundation plan, building plan, roof system plan and details, tank and generator foundations plans and details.

### 2.1.6 Outline Special Provisions

- a. Prepare outline of the Special provisions (technical specifications) for the project improvements.

### 2.1.7 Cost Estimate

- a. We will prepare a cost estimate for the project.

**PROPOSAL****2.1.8 Project Management and Coordination**

- a. Progress meetings with Client.
- b. Coordination with subconsultants.
- c. Coordination with equipment manufacturer.
- d. Coordination with permitting agencies.

**Work Product**

- Prepare 75% construction drawing in PDF.
- Prepare outline of the Special Provisions in Word format on 8½" x 11" paper.
- Prepare cost estimate in Excel on 8½" x 11" paper.
- Meeting notes and project correspondence.

**2.2 95% Construction Documents**

Plans and technical specifications with cost estimate will be prepared for the pump station based on the 75% layout with City and Developer review comments incorporated. The construction drawings will generally include the following civil, structural and electrical/control plan views and details:

**2.2.1 Electrical**

- a. Load calculations
- b. Conduit & wire
- c. Device Index
- d. Panel board
- e. PLC I/O

**2.2.2 Civil**

- f. Title sheet with vicinity map, index, legend and miscellaneous notes.
- g. Site layout plan showing pump station layout.
- h. Enlarged piping and fitting plan with cross-section view.
- i. Miscellaneous site details.

**2.2.3 Structural**

- a. Structural drawing sheets with general notes, foundation plan, building plan, roof system plan and details, tank and generator foundations plans, building elevations and details.

**2.2.4 Special Provisions**

- a. Special provisions (technical specifications) will be prepared by C+D. The Developer will then package specifications and their standard boilerplate documents for bidding. C+D will provide bid

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**PROPOSAL**

proposal form and special provisions in Word computer data file for insertion into the Developer bidding document file. Final document will be printed and reproduced by the Developer.

**2.2.5 Cost Estimate**

- a. We will prepare a cost estimate for the project.

**2.2.6 Project Management and Coordination**

- a. Progress meetings with Client.
- b. Coordination with subconsultants.
- c. Coordination with equipment manufacturer.
- d. Coordination with permitting agencies.

**Work Product**

- Prepare 95% construction drawing in PDF.
- Prepare specifications in Word format on 8½"x11" paper.
- Prepare cost estimate in Excel on 8½"x11" paper.
- Meeting notes and project correspondence.

**2.3 100% Construction Documents**

Plans and technical specifications with cost estimates will be prepared for the pump station based on the 95% layout with The City and Developer review comments incorporated. The construction drawings will generally include the following civil, structural, architectural and electrical/control plan views and details:

**2.3.1 Electrical**

- a. Load calculations
- b. Conduit & wire
- c. Device Index
- d. Panel board
- e. PLC I/O

**2.3.2 Civil**

- a. Title sheet with vicinity map, index, legend and miscellaneous notes.
- b. Site layout plan showing pump station layout.
- c. Enlarged piping and fitting plan with cross-section view.
- d. Miscellaneous site details.

**2.3.3 Structural**

- a. Structural drawing sheets with general notes, foundation plan, building plan, roof system plan and details, tank and generator foundations plans and details.

**PROPOSAL****2.3.4 Special Provisions**

- a. Final Special provisions (technical specifications) will be prepared by C+D. The Developer will then package specifications and their standard boilerplate documents for bidding. C+D will provide bid proposal form and special provisions in Word computer data file for insertion into the Developer bidding document file. Final document will be printed and reproduced by The Developer.

**2.3.5 Cost Estimate**

- a. We will prepare a cost estimate for the project.

**2.3.6 Project Management and Coordination**

- a. Progress meetings with Client.
- b. Coordination with subconsultants.
- c. Final coordination with equipment manufacturer.
- d. Final coordination with permitting agencies.

**2.3.7 Mylars**

- a. One set of mylar plots of the drawings (stamped and signed) will be provided to the City.

**Work Product**

- Prepare 100% construction drawing on 24" x 36" mylars and PDF.
- Prepare final cost estimate on 8 ½" x11" bond.
- Prepare final specifications in Word format.

**3. Phase III: Bidding and Construction Administration Assistance:**

- 3.1 During the bid period C+D and our subconsultants will assist the Developer with issuing addendums and answering questions. We will attend pre-job conference at the City.
- 3.2 Review shop drawings and material submittals for conformance to plans and specifications, answer questions and provide clarification during construction.
- 3.3 Using the City Inspector and Contractor, redlined plan mark-ups we will prepare record drawing mylars with any field noted modifications.

**III. ADDITIONAL SERVICES**

The following services are additional services. These services are available to the Client as a negotiated addition to the base contract or under a time and materials basis.

1. Construction Assistance.
2. Change to preliminary or construction documents resulting from changes and inconsistencies in Client furnished site plans.

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## PROPOSAL

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3. Any design or plans for improvement outside the limits of work discussed above.
4. Negotiation of easements.
5. Traffic studies or reports.
6. Composite joint trench plan for gas, electric, cable television and telephone.

### IV. CLIENT RESPONSIBILITIES

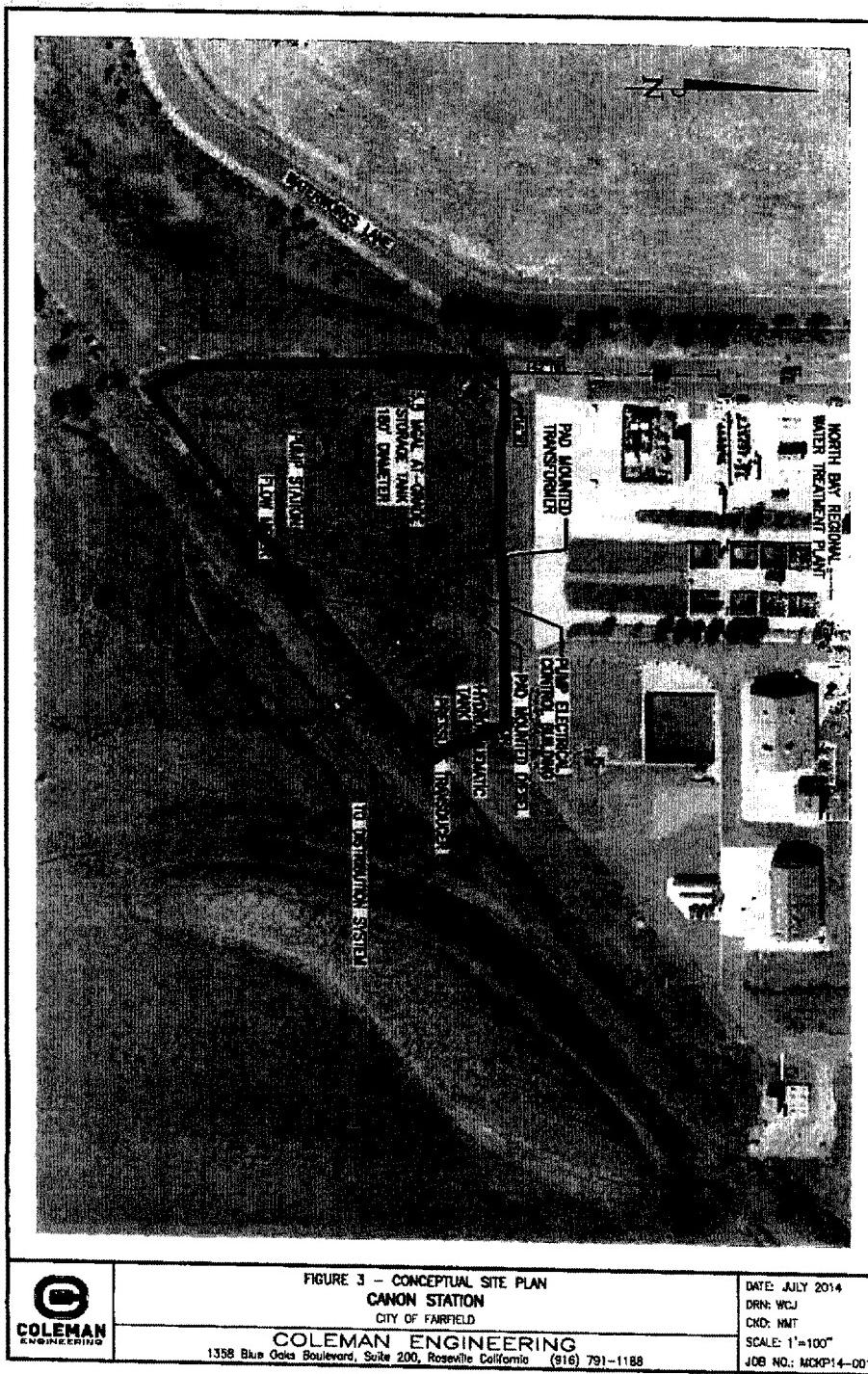
The Client will acquire and provide the following:

1. Payment of any agency fees.
2. PG&E and Pacific Bell utilities design, if required.
3. Toxic waste investigations and mitigations, if required.
4. Environmental reports, if required.

## **PROPOSAL**

**Exhibit "A"**

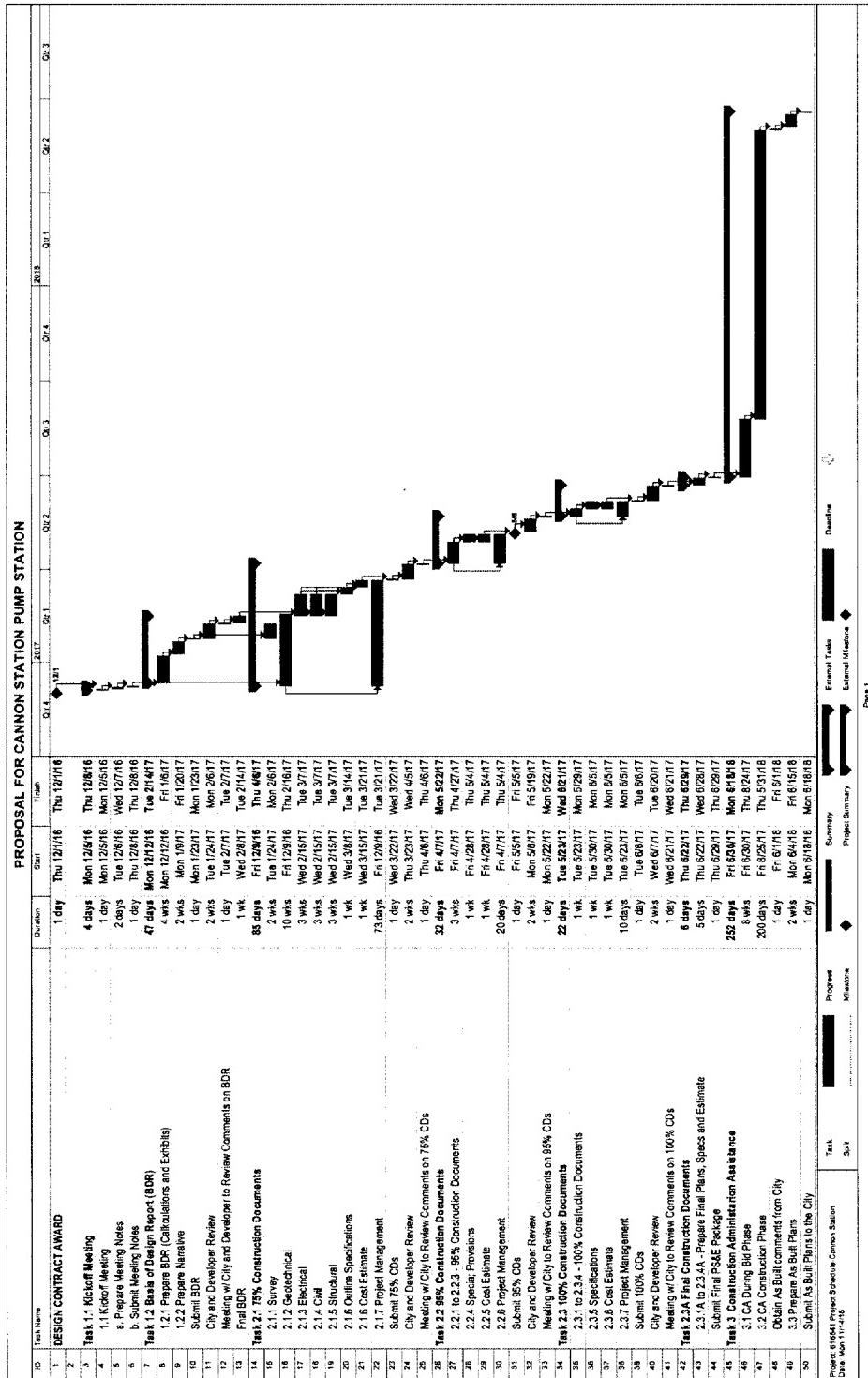
**EXHIBIT "A"**  
**LIMIT OF WORK**



**Professional Services for Canon Station Pump Station**  
**City of Fairfield**

**PROPOSAL**

**VI. Work Schedule**



**EXHIBIT "B"**

**BUDGET & FEE SCHEDULE**

## PROPOSAL

Exhibit "B"  
Professional Services for Canon Station Pump Station  
City of Fairfield

### V. Project Budget

C+D will provide the Basic Services shown in Section II. Scope of Work item I - Basic Services, on a time and materials not to exceed fee as follows:

<b>1. Phase I: Kickoff Meeting &amp; Pre-Design</b>			
1.1	Kickoff Meeting		\$1,940
1.2	Basis of Design Report		\$50,409
		<b>Subtotal</b>	<b>\$52,349</b>
<b>2. Phase II: 75%, 95% and 100% Construction Drawings</b>			
2.1	75% Construction Documents		\$95,145
2.2	95% Construction Documents		\$47,225
2.3	100% Construction Documents		\$32,708
2.4	Final Construction Documents		\$7,295
		<b>Subtotal</b>	<b>\$182,373</b>
<b>3. Phase III: Bidding &amp; Construction Admin Assistance</b>			
3.1	During Bid Phase		\$12,406
3.2	During Construction Phase		\$100,310
3.3	Record Drawing		\$10,397
		<b>Subtotal</b>	<b>\$123,113</b>
		Total of All Tasks	\$357,835
		Reimbursable	\$1,294
		<b>PROJECT TOTAL</b>	<b>\$359,129</b>

Following is the **Manhour Estimate** (Exhibit D) for the staff hour requirements.

# PROPOSAL

## Professional Services for Canon Station Pump Station City of Fairfield

### EXHIBIT "D" MANHOUR ESTIMATE

**Creegan+D'Angelo** Professional Services

JOB #: E16541

#### MANHOUR ESTIMATE EXHIBIT "D"

DATE: 2-Nov-16

SHEET 1  
Manhour

15%

1

of

1

PROJECT MANAGER:	NS	CONTINGENCY	CLASSIFICATION	% INCLUDED			C-H MHS	TOTAL	C-H \$	GenTech	Electrical	Structural	Mech.	Subtotal	Free
				Civil	Civil PM	Civil S/Eng.	Admin								
1. <u>Details of Design Report</u>	4	4	4	2	10	11.00			\$14,180	\$2,300	\$0	\$0	\$14,180		
1.1. <u>Cost Estimating</u>	40	65	40	20	100	\$50,000			\$14,180	\$2,300	\$0	\$0	\$14,180		
1.2. <u>Basic of Design Report</u>	44	64	49	22	9	170			\$14,180	\$2,300	\$0	\$0	\$14,180		
2.1. <u>75% Construction Drawings</u>															
2.1.1. <u>Survey</u>															
2.1.2. <u>Geotechnical</u>															
2.1.3. <u>Electrical</u>															
2.1.4. <u>Civil</u>															
2.1.5. <u>Structural</u>															
2.1.6. <u>Outline Specifications</u>															
2.1.7. <u>Cost Estimate</u>															
2.1.8. <u>Project Management</u>															
2.2. <u>CD</u>															
2.2.1. <u>Estimate</u>															
2.2.2. <u>Civil</u>															
2.2.3. <u>Structural</u>															
2.2.4. <u>Special Provisions</u>															
2.2.5. <u>Cost Estimate</u>															
2.2.6. <u>Project Management</u>															
2.3. <u>10% CD</u>															
2.3.1. <u>Estimate</u>															
2.3.2. <u>Civil</u>															
2.3.3. <u>Structural</u>															
2.3.4. <u>Special Provisions</u>															
2.3.5. <u>Cost Estimate</u>															
2.3.6. <u>Project Management</u>															
2.3.7. <u>Final CD</u>															
2.3.8A. <u>Electrical</u>															
2.3.8B. <u>Civil</u>															
2.3.8C. <u>Structural</u>															
2.3.8A. <u>Special Provisions</u>															
2.3.8A. <u>Cost Estimate</u>															
2.3.8A. <u>Project Management</u>															
2.3.8A. <u>Final CD</u>															
3. <u>Construction Admin</u>															
3.1. <u>During Bid Phase</u>	17		10	1	32	\$5,460			\$5,460	\$1,000	\$0	\$0	\$5,460		
3.2. <u>During Construction Phase</u>	80		82	14	227	\$63,063			\$63,063	\$8,000	\$0	\$0	\$63,063		
3.3. <u>Records Disposal</u>	1		24	4	32	\$4,000			\$4,000	\$1,200	\$0	\$0	\$1,200		
3.3.6A. <u>Project Management</u>	93	0	9	103	18	0	112	10	\$10,220	\$1,000	\$0	\$0	\$10,220		
3.4. <u>Final CD</u>															
4. <u>MISC. COSTS</u>															
4.1. <u>Mileage</u>	0	Kilometers	61			\$0.54 per mile			\$0	\$0			\$0		
4.2. <u>Printing (bind)</u>	200	Sheets	61			\$21,000			\$0	\$80			\$20,920		
4.3. <u>Printing (copy)</u>	25	Sheets	61			\$26,000			\$0	\$26			\$25,974		
4.4. <u>Delivery</u>	0	each	61			\$26,000			\$0	\$0			\$25,974		
<b>CHARGE RATE</b>	\$225		\$175	0	170										
<b>SUBTOTAL HOURS</b>	389		64	0	103										
<b>SUBTOTAL DOLLARS</b>	\$87,300		\$14,400	0	\$72,880	\$6,360	10	\$10,220	\$12,460	\$112,100	\$28,000	\$23,045	\$337,135	\$37,423	

November 15, 2016

## **PROPOSAL**

Exhibit "B"  
Professional Services for Canon Station Pump Station  
City of Fairfield

### **VII. Fee Schedules**

#### **CREEGAN + D'ANGELO**

##### **Engineering Services**

Principal Engineer .....	\$ 225.00	per hour
Senior Project Manager.....	\$ 205.00	per hour
Project Manager .....	\$ 190.00	per hour
Senior Engineer.....	\$ 175.00	per hour
Associate Engineer.....	\$ 155.00	per hour
Staff Engineer .....	\$ 135.00	per hour
Civil Designer .....	\$ 135.00	per hour
CADD Technician.....	\$ 120.00	per hour
Administrative Assistant .....	\$ 70.00	per hour

##### **Surveying Services**

2-Man Survey Party .....	\$ 270.00	per hour
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##### **Other Services**

Court Appearances and Depositions (8 hour minimum).....	\$ 425.00	per hour
Court Preparation .....		applicable hourly rates
Consultants and Other Outside Costs .....		Cost + 15%
Vehicle Transportation.....	Federal Rate + 15%	
In-house Computer Services .....	\$ 30.00	per hour
Travel Time	applicable hourly rates	

##### **Miscellaneous Provisions**

Payment is due upon presentation of invoice and is past due 30 days from the date of invoice. A late payment charge is computed at the annual rate of 5% above the Federal Discount Rate and billed on any invoice balance due, commencing 45 days after the invoice date.

*This Fee Schedule is effective from June 1, 2016.  
These rates are subject to adjustment annually.*



## PROPOSAL

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### A T.E.E.M. 2016-2017 STANDARD RATES

The following lists **A T.E.E.M.**'s Standard Hourly Rates. Labor rates will stay the same for any overtime work charges to the project. All work will be invoiced per the following rate schedule:

#### **A T.E.E.M. ELECTRICAL ENGINEERING RATE SCHEDULE**

Field Programmer:	\$210 per hour
Office Programmer:	\$200 per hour
Electrical Inspector:	\$190 per hour
P.E. Field Engineering:	\$190 per hour
P.E. Office Engineering:	\$180 per hour
Technical Assistant:	\$110 per hour
Minor Travel expenses:	Included in hourly rate
Miscellaneous expenses:	Cost +15%

All hourly costs include standard office costs, such as copying and binding documents, telephone charges, insurance, overhead, computer usage, software and profit. Also included in the field engineering and electrical inspector hourly rates are all travel costs to the jobsite.

The rates **DO NOT** include lodging, meals for overnight stays, rental equipment or special project material, when necessary. These miscellaneous expenses will be billed at cost plus 15%.

## PROPOSAL

Exhibit "B"  
Professional Services for Canon Station Pump Station  
City of Fairfield

**SCHEDULE OF FEES 2016P**  
**PROFESSIONAL SERVICES**      **Page 1 of 4**

**PROFESSIONAL SERVICES**

Principal Engineer / Geologist	\$160.00	per hour
Senior Engineer / Geologist	\$160.00	per hour
Senior Environmental Scientist	\$160.00	per hour
Project Engineer / Geologist	\$135.00	per hour
Project Environmental Scientist	\$135.00	per hour
Senior Staff Engineer / Geologist	\$125.00	per hour
Senior Staff Environmental Scientist	\$125.00	per hour
Staff Engineer / Geologist	\$120.00	per hour
Staff Environmental Scientist	\$120.00	per hour
Senior Environmental Technician	\$95.00	per hour
Senior / Supervising Technician	\$95.00	per hour
Draftsperson / GIS Technician	\$90.00	per hour
Administrative Assistant	\$70.00	per hour

**FIELD INVESTIGATION TESTING**

Seismic Refraction Survey	\$160.00	per hour
Thermal Resistivity Testing	\$160.00	per hour
Electrical Resistivity Survey	\$160.00	per hour
Hand Augering/Sampling - Engineer	\$145.00	per hour
Photoionization Detector	\$160.00	per hour

**LITIGATION**

Data Review/Consultation	\$230.00	per hour
Depositions/Expert Witness Testimony	\$340.00	per hour

**EXPENSES**

Vehicle Charges ( <i>Subject to periodic adjustment due to fuel cost</i> )	\$0.75	per mile
Subsistence	\$55.00	per day
Lodging	Cost	
Services by Associate Firms and other outside services	Cost	plus 20%
Equipment rental, freight, special materials	Cost	plus 20%
Extra Report Copies		
Black and white versions	\$21.00	each
Color photography versions	\$32.00	each

**PREMIUM CHARGES**

Overtime and Saturdays	hourly rate plus	40	percent
Sunday and Holidays	hourly rate plus	75	percent

**SHIFT DIFFERENTIAL**

A 25 percent shift differential surcharge will be added to the hourly rate of personnel involved in scheduled testing work between the hours of 6 P.M. and 5 A.M., as well as a four hour minimum.



**PROPOSAL****SCHEDULE OF FEES 2016P**

Page 2 of 4

**FIELD SERVICES****CONCRETE & REINFORCING STEEL**

Ball Penetration (Kelly Ball)	\$120.00 /hr.	Asphalt Concrete Inspection / Testing	\$95.00 /hr.
Batch Plant Inspection	\$90.00 /hr.	Asphalt Concrete Materials Sampling	\$95.00 /hr.
CaCl Moisture Emission Test Kit	\$30.00 /kit	Building Pad Special Inspection / Testing	\$95.00 /hr.
CaCl Moisture Emission Testing	\$85.00 /hr.	Deep Foundation Inspection	\$95.00 /hr.
CLSM/CDF/Slurry Testing	\$85.00 /hr.	Flatwork AB Inspection / Testing	\$95.00 /hr.
Concrete Mix Design Review	\$160.00 /hr.	Flatwork Subgrade Inspection / Testing	\$95.00 /hr.
Concrete Placement Obs/Cast Cylinder	\$90.00 /hr.	Grading Inspection / Testing	\$95.00 /hr.
Concrete Rebound Number Testing	\$120.00 /hr.	Hand Augering and Sampling	\$120.00 /hr.
Concrete Trial Batch	\$90.00 /hr.	Pavement AB Inspection / Testing	\$95.00 /hr.
Floor Flatness Testing	\$120.00 /hr.	Pavement Subgrade Inspection / Testing	\$95.00 /hr.
High Strength Grout Sampling / Testing	\$90.00 /hr.	Proof Rolling Observation	\$95.00 /hr.
Rebar / Post Tension Special Inspection	\$95.00 /hr.	Shallow Foundation Inspection	\$95.00 /hr.
Rebar Location / GPR	\$275.00 /hr.	Slab Subgrade Soil Moisture Tests	\$95.00 /hr.
Rebar Location / Pachometer	\$120.00 /hr.	Soil / Aggregate Sampling	\$95.00 /hr.
Rebar Placement Inspection	\$95.00 /hr.	Soil Treatment Testing / Observation	\$95.00 /hr.
Reinforcing Steel Sampling/Tagging	\$90.00 /hr.	Structure Backfill Inspection / Testing	\$95.00 /hr.
Relative Humidity Testing	\$120.00 /hr.	Subgrade Stabilization Observation	\$95.00 /hr.
Shotcrete Special Inspection	\$90.00 /hr.	Utility Trench Backfill Testing	\$95.00 /hr.
Transport Cylinders / Samples to Lab	\$90.00 /hr.	WKA Drill Rig (including operator)	\$260.00 /hr.
		WKA Drill Rig (helper)	\$95.00 /hr.

**CORING**

Coring (Technician + equipment)	\$120.00 /hr.	<b>SPECIALIZED SERVICES</b>	
Coring (Technician assistant)	\$90.00 /hr.	Coefficient of Friction Testing	\$120.00 /hr.

**Coefficient of Friction Testing**

\$120.00 /hr.

**Crack Monitoring**

\*\*

**POST-INSTALLED ANCHORS**

Concrete Anchor Installation Inspection	\$90.00 /hr.	Existing Building Evaluation / Demo	\$90.00 /hr.
Concrete Anchor Proof Load Testing	\$120.00 /hr.	Existing Building Evaluation / Document	\$90.00 /hr.
Concrete Anchor Torque Testing	\$95.00 /hr.	Existing Building Evaluation / Repair	\$90.00 /hr.
Suspended Ceiling Inspection / Testing	\$120.00 /hr.	Field Investigate Support	\$90.00 /hr.

**STRUCTURAL STEEL**

Fireproofing Special Inspection / Testing	\$90.00 /hr.	GFRC Inspection / Testing	\$90.00 /hr.
High Strength Bolt Special Inspection	\$95.00 /hr.	Soil Elect. Resistivity Testing - Technician	\$120.00 /hr.
Non-Destructive Testing - UT/MT/PT	\$105.00 /hr.	Prestress Framing Installation	\$90.00 /hr.
Welding Special Inspection - Field	\$95.00 /hr.	Proto Wall Inspection / Testing	\$90.00 /hr.
Welding Special Inspection - Shop	\$95.00 /hr.	Roofing Inspection	\$90.00 /hr.

**MASONRY**

In-Place Masonry Flatjack Testing	\$145.00 /hr.	Thickness Testing - Coating / Steel	\$90.00 /hr.
In-Place Masonry Shear Testing	\$120.00 /hr.	Timber Framing / Hardware Inspection	\$90.00 /hr.
Masonry Materials Sampling / Testing	\$90.00 /hr.	Vapor Barrier Inspection	\$90.00 /hr.
Masonry Special Inspection	\$90.00 /hr.	Vibration Monitoring	**
Masonry Special Inspection DSA Certified	\$100.00 /hr.	<b>GENERAL</b>	

**GENERAL**

Inspection / Testing Cancelled

\*

Reinspection / Retesting

\*

Stand-by Time

\*

\* Based on hourly rate of Inspection or Testing scheduled

\*\* Based on Staff Classification

**MINIMUM CHARGES**

A two hour minimum charge will apply to field technician services with the following exceptions:

- a) Single trip pickup and delivery services, where a one hour minimum will apply.
- b) Saturday, Sunday and holidays, where a four hour minimum charge will apply.



## PROPOSAL

## SCHEDULE OF FEES 2016P

Page 3 of 4

## LABORATORY SERVICES

**SOIL**

Atterberg Limits (LL/PI)	ASTM D4318	\$150.00	each
CLSM/CDF/Soil Cement Compression Test	ASTM D4832	\$50.00	each
Compaction Characteristics	ASTM D698	\$240.00	each
Compaction Characteristics	ASTM D1557	\$240.00	each
Compaction Characteristics	CTM 216	\$240.00	each
Expansion Index	ASTM D4829	\$175.00	each
Hydraulic Conductivity, Flexible Wall Permeability	ASTM D5084	\$400.00	each
Moisture Content	ASTM D2216	\$20.00	each
Organic Content	ASTM D2974	\$90.00	each
Resistance "R" Value - Untreated	ASTM D2844, CTM 301	\$245.00	each
Resistance "R" Value - Laboratory Lime-Treated	ASTM D2844, CTM 301	\$300.00	each
Sieve Analysis - Sieve only (Coarse or Fine)	ASTM C136/D1140	\$100.00	each
Sieve Analysis - Passing No. 200 only	ASTM D1140	\$90.00	each
Sieve Analysis - Sieve & Hydrometer	ASTM D422	\$160.00	each
Specific Gravity of Soils	ASTM D854	\$125.00	each
Triaxial Compression Test, 1 point - Undisturbed	ASTM D4767	\$250.00	each
Triaxial Compression Test, 3 Pt Staged - Undisturbed	ASTM D4767	\$295.00	each
Triaxial Compression Test, 1 point - Remolded	ASTM D4767	\$325.00	each
Triaxial Compression Test, 3 Pt Staged - Remolded	ASTM D4767	\$375.00	each
Unconfined Compression Test	ASTM D2166	\$100.00	each
Unit Weight/Moisture Content - Tube Sample	ASTM D2937/D2216	\$30.00	each
Consolidation (8 loads + 1 rebound)	ASTM D2435	\$450.00	each
Consolidation (additional loads)	ASTM D2435	\$50.00	each
Thermal Resistivity	ASTM D5334	\$50.00	each

**AGGREGATE**

Aggregate Unit Weight	ASTM C29	\$50.00	each
Clay Lumps and Friable Particles	ASTM C142	\$155.00	per size
Cleanness Value	CTM 227	\$160.00	each
Durability Index (Coarse or Fine)	CTM 229	\$155.00	each
Flat and Elongated Particles in Coarse Aggregate	ASTM D4791	\$115.00	per size
Fractured/Crushed Particles	ASTM D5821, CTM 205	\$115.00	per size
Organic Impurities in Fine Aggregates	ASTM C40	\$55.00	each
Resistance "R" Value	CTM 301	\$290.00	each
Sand Equivalent, 1 point	CTM 217	\$85.00	each
Sand Equivalent, 3 points	CTM 217	\$125.00	each
Sieve Analysis - Coarse or Fine	ASTM C136, CTM 202	\$100.00	each
Sieve Analysis - Passing No. 200 only	ASTM C117	\$90.00	each
Sodium Sulfate Soundness	ASTM C88, CTM 214	\$120.00	per size
Specific Gravity and Absorption (Coarse or Fine)	ASTM C127, C128	\$120.00	each

**ASPHALT CONCRETE**

Asphalt Content (Ignition Oven)	ASTM D6307, CTM 382	\$240.00	each
Hveem Compacted Unit Weight, 1 point	ASTM D1560/D2726		
	CTM 304/308	\$95.00	each
Laboratory Test Maximum Density (LTMD), 5 points	CTM 375	\$350.00	each
Marshall Compacted Unit Weight, 1 point	ASTM D6926/D2726	\$90.00	each
Sieve Analysis of AC Aggregate (Coarse and Fine)	ASTM D5444, CTM 202	\$165.00	each
Stabilometer Value, 1 point	CTM 366	\$125.00	each
Theoretical Maximum Density	ASTM D2041, CTM 309	\$150.00	each
Thickness of AC Cores	ASTM D3549	\$10.00	each
Unit Weight of AC Cores	ASTM D2726, D1188, CTM 308	\$50.00	each



## PROPOSAL

## SCHEDULE OF FEES 2016P

Page 4 of 4

## LABORATORY SERVICES

## CONCRETE

Compression Test, Concrete Cylinder	ASTM C39	\$25.00	each
Compression Test, Concrete Cylinder - Hold	ASTM C39	\$20.00	each
Compression Test, Concrete Core	ASTM C42, C39	\$70.00	each
Compression Test, Shotcrete Core	ASTM C42, C39	\$70.00	each
Compression Test, High Strength Grout	ASTM C1107/C109	\$35.00	each
Concrete Cylinder Mold		\$4.00	each
Density / Unit Weight of Concrete	ASTM C567, C642	\$50.00	each
Flexural Strength Test, Concrete Beam	ASTM C78	\$95.00	each
Laboratory Drying Shrinkage Test, per beam	ASTM C157	\$175.00	each
Splitting Tensile Test, Concrete Cylinder	ASTM C496	\$75.00	each

## MASONRY

## Brick

Compression Test	ASTM C67	\$60.00	each
Modulus of Rupture	ASTM C67	\$70.00	each
Absorption	ASTM C67	\$85.00	each
Concrete Masonry Unit			
Compression Test	ASTM C140	\$70.00	each
Absorption & Moisture Content	ASTM C140	\$70.00	each
Linear Drying Shrinkage	ASTM C426	\$175.00	each
Compression Test, Composite Masonry Prism	ASTM C1314	\$95.00	each
Compression Test, Masonry Grout	ASTM C1019	\$35.00	each
Compression Test, Mortar	ASTM C780	\$30.00	each
Core Shear Test	CBC Section 2105A	\$80.00	each
Masonry Core Compression Test	CBC Section 2105A	\$70.00	each

## STEEL

Anchor Bolt Tensile Test	ASTM F606	\$95.00	each
Fireproofing Density Test	ASTM E605	\$65.00	each
High Strength Bolt Assembly Laboratory Testing			
Bolt - Wedge Tension Test	ASTM F606	\$70.00	each
Bolt - Proof Load Test	ASTM F606	\$70.00	each
Bolt - Hardness Test	ASTM E18	\$25.00	each
Nut - Proof Load Test	ASTM F606	\$70.00	each
Nut - Hardness Test	ASTM E18	\$25.00	each
Washer - Hardness Test	ASTM E18	\$25.00	each
Prestressing Steel Strand Tensile Test	ASTM A416/A1061	\$125.00	each
Reinforcing Steel (Rebar) Tensile Test			
Up to No. 7	ASTM A615, A706/A370	\$70.00	each
From No. 8 through No. 14	ASTM A615, A706/A370	\$95.00	each
Reinforcing Steel (Rebar) Bend Test	ASTM A615, A706/A370	\$35.00	each
Structural Steel Tensile Test			
Up to 3/4"	ASTM A370	\$70.00	each
Sizes Larger Than 3/4"	ASTM A370	\$95.00	each
Machining of Test Specimens		cost plus %20	
Structural Steel Hardness Testing	ASTM E18	\$75.00	each
Torque Wrench Calibration (minimum of 4 wrenches)		\$75.00	each
Weld Assembly, Guided Bend/Macroetch/T-Bend Test	AWS D1.1, ASTM E190	\$75.00	per test
Welder Qualification Test Inspection		\$80.00	per hour
Welder Qualification Test Record		\$95.00	each

## TESTING SERVICES

Laboratory Technician

\$75.00 per hour

